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BULLETIN
OF THE
TORREY BOTANICAL CLUB

FEBRUARY, 1920

Notes on Rosaceae—XII

PER AXEL RYDBERG

ROSES OF NORTHEASTERN NORTH AMERICA

By northeastern North America is meant the parts of the United States and Canada east of the Mississippi River and the Lake of the Woods and north of North Carolina and Tennessee. It comprises about the same region as that covered by Gray's and Britton's manuals, except the extreme western portion included in the latter.

As the genus *Rosa* is too large to be treated in one paper, my intention has been to discuss the different species according to their distribution, in six or seven articles. One of these articles, entitled "Roses of California and Nevada,"* has already been published; the roses of the Rocky Mountain Region have been described in my Flora,† and the whole genus, as represented in North America, has been monographed in the North American Flora.‡ There is, therefore, no need of giving full descriptions or of citing lists of synonyms. For the sake of those who do not have access to the later publication, it may be desirable to include keys to the species. The articles will otherwise contain only such notes as could not be included in the North American Flora.

* Bull. Torrey Club 44: 65-84. 1917.

† Flora of the Rocky Mountains and adjacent plains. New York. 1917.

‡ N. Am. Flora 22: 483-533.

[The BULLETIN for January (47: 1-44, pl. 1) was issued February 18, 1920.]

Key to the groups

- Styles much exserted, united, about equaling the stamens;
stipules adnate; sepals reflexed, deciduous; stem
climbing, with curved prickles. I. SYNSTYLAE.
- Styles not exserted, or only slightly so, distinct; stigmas
forming a head closing the mouth of the hypan-
thium.
- Stipules almost free from the petioles; introduced
climbers or trailers. II. BRACTEATAE.
- Stipules for most of their length adnate to the petioles;
plants rarely climbing.
- Sepals after flowering reflexed and soon deciduous.
Achenes inserted both on the inner walls and in
the bottom of the hypanthium; prickles
rarely infrastipular.
- Stem prickly.
- Leaflets 3-5, rarely 7, large, round; stem
with both scattered prickles and bris-
tles; flowers mostly solitary. III. GALLICAE.
- Leaflets mostly 7; stem with strong
prickles, very rarely with bristles. IV. CANINAE.
- Stem unarmed. VI. CINNAMOMIAE.
- Achenes inserted only in the bottom of the
bristly hypanthium; stem with infrastipular
prickles and usually with numerous bristles
on the young shoots. V. CAROLINAE.
- Sepals after flowering erect, connivent, long-
persistent on the fruit; achenes inserted both
on the inner walls and in the bottom of the
hypanthium.
- Flowers corymbose or, if solitary, then sup-
ported by a bract; leaflets large.
- Stem with scattered prickles, rarely with in-
termixed bristles; sepals more or less
lobed; foliage glandular-punctate, sweet-
scented (in *R. rubiginosa* and *R. tomen-
tosa*). IV. CANINAE.
- Stem, at least the young shoots, bristly;
prickles infrastipular or lacking; sepals
entire or the outer sometimes with one or
two lobes; foliage not very sweet-scented. VI. CINNAMOMIAE.
- Flowers solitary, bractless; leaflets very small. VII. PIMPINELLIFOLIAE.

I. SYNSTYLAE

- Stipules pectinate. 1. *R. multiflora*.
- Stipules entire or denticulate.
- Leaflets glabrous or slightly pubescent on the veins be-
neath, dark green and shining above. 2. *R. setigera*.
- Leaflets velutinous-pubescent beneath, rather dull above. 3. *R. rubifolia*.

1. *ROSA MULTIFLORA* Thunb.

This species is a native of Japan and China. It is extensively cultivated, and has developed into numerous horticultural varieties, mostly with double flowers. Numerous hybrids have also been produced. It has become naturalized in Alabama and on Porto Rico, and is otherwise found occasionally escaped in the Southern States. Within the area covered by this paper, there is a simple record from Maryland. The species is distinguished from its relatives by the fringed stipules.

2. *ROSA SETIGERA* Michx.

This is a native of the Southern States and is common from North Carolina and Kentucky to Alabama and Florida. It is found, however, outside of this range as far west as Kansas and Arkansas. The following localities north of Kentucky have been recorded. The specimens collected at these places might have been from plants escaped from cultivation.

NEW YORK: Oneida, *Maxon*; Ithaca, *Coville*.

3. *ROSA RUBIFOLIA* R. Br.

This species has been regarded as the same as the preceding. In its typical form, however, with its broader and thicker leaflets densely pubescent beneath, it seems quite distinct. The few intermediate forms seen by the author may have been hybrids. *R. rubifolia* has its best development in the Mississippi Valley and is rare east of the Alleghanies. It extends further north than *R. setigera*. The following specimens are here recorded from outside of the range proper. These may have been collected from escaped plants, as this species, as well as *R. setigera*, is extensively cultivated.

NEW JERSEY: Milburn, *Mackenzie*.

ONTARIO: Sandwich and Pelee Island, *Macoun*.

II. BRACTEATAE

One species.

4. *R. bracteata*.

4. *ROSA BRACTEATA* Wendl.

A native of China, often cultivated and occasionally escaped and naturalized from Virginia to Florida and Texas. It is well

understood and no specimens need to be cited. The only synonyms the author has found, are: *R. lucida* Lawrence, and *R. Macartnea* Dum. Cours. The former is a hyponym and a homonym. The latter has often been given as a synonym of *R. laevigata*, but erroneously so, for it is easily seen from Dumortier's description that it belongs to *R. bracteata*.

III. GALLICAE

One species.

5. *R. gallica*.

5. ROSA GALLICA L.

Cultivated in many forms and occasionally escaped. Some of these escaped specimens may belong to the pure-blooded *R. gallica*, but others are plainly referable to *R. centifolia*. Whether or not the latter is a distinct species is a question which I have had neither the time nor the inclination to settle. The following specimens, belonging to *R. gallica* or closely related species, have been recorded within the area.

NEW YORK: New Baltimore, *N. Taylor*.

WISCONSIN: *Stennett*.

IV. CANINAE

Leaflets glandular-pruinose beneath, distinctly double-seriate with gland-tipped teeth.

Leaflets suborbicular or broadly oval, mostly rounded at the apex; hypanthium in fruit obovoid or broadly ellipsoid, abruptly contracted at the apex; sepals tardily deciduous or more or less persistent; styles pubescent.

6. *R. rubiginosa*.

Leaflets ovate or oval, acute or short-acuminate; hypanthium in fruit narrowly elliptic, tapering at both ends; sepals rather early deciduous; styles glabrous or nearly so.

7. *R. micrantha*.

Leaflets not glandular beneath, except sometimes on the midrib; teeth only occasionally double.

Leaves pubescent, at least beneath, and on the rachis.

8. *R. dumetorum*.

Leaves glabrous on both sides, shining above.

9. *R. canina*.

6. ROSA RUBIGINOSA L.

The Sweetbrier is often cultivated and has become thoroughly naturalized in many places. It is very variable in cultivation and the naturalized specimens show also such variation. All specimens labeled *R. rubiginosa* do not, however, belong to that species. At least one-fourth of them belong to the next.

7. *ROSA MICRANTHA* Borrer

This is often mistaken for *R. rubiginosa* but differs in the less rounded leaflets, the more ellipsoid fruit, the more deciduous sepals, the smaller petals, and the almost glabrous styles. The following specimens belong to it:

MASSACHUSETTS: Manchester, *Chamberlain*; Ipswich, *Morong*.

NEW YORK: Oak Point, *Burnham 77*; High Bridge, *Elizabeth Knight*; Fort Lee, *Torrey Botanical Club*.

NEW JERSEY: Rocky Hill, *Lighthipe*; Great Notch, *Nash 1056*.

MARYLAND: Rush River, *Shull 347*.

VIRGINIA: Bedford, *A. H. Curtiss*.

8. *ROSA DUMETORUM* Thuill.

Closely resembling the Dog Rose but with the leaves pubescent beneath. The only record of this species from America is one from Bowling Green, Kentucky. This might have been an escape from cultivation.

9. *ROSA CANINA* L.

The Dog Rose is well understood, though it is only sparingly naturalized in the Northeastern States.

V. CAROLINAE

Hypanthium globose or short-ellipsoid, rounded or barely acute at the base.

Infrastipular prickles decidedly curved.

Leaflets finely serrulate, elliptic or oblanceolate; prickles short and stout.

Leaflets mostly 7; flowers usually corymbose on erect branches; fruit depressed-globose, about 12 mm. thick.

10. *R. palustris*.

Leaflets mostly 5; flowers usually solitary or two together on spreading branches; fruit ellipsoid, acute at the base, 8-9 mm. thick.

11. *R. dasistema*.

Leaflets coarsely serrate, oval or obovate.

Leaflets not shining; prickles short and weak.

Leaflets obovate; fruit 10-12 mm. in diameter.

12. *R. gemella*.

Leaflets oblanceolate; fruit 7-10 mm. in diameter.

13. *R. nanella*.

Leaflets shining; prickles long and stout.

14. *R. virginiana*.

Infrastipular prickles straight or slightly curved.

Leaflets oval or obovate or broadly lance-elliptic, 5-7 (in *R. virginiana* rarely 9).

- Leaves decidedly pubescent beneath. 15. *R. Lyoni*.
 Leaves glabrous or pubescent only on the veins beneath.
 Leaflets shining above; flowers usually corymbose; prickles as a rule stout and flattened at the base. 14. *R. virginiana*.
 Leaflets not shining above; flowers usually solitary, rarely a few together; prickles slender, terete.
 Leaflets not glandular-dentate.
 Plant low, usually less than 2 dm. high; leaflets less than 2 cm. long, dark green; prickles 3-5 mm. long, stout, often curved. 13. *R. nanella*.
 Plant usually more than 2 dm. high; leaflets usually more than 2 cm. long; prickles more than 5 mm. long, slender.
 Leaflets broadly oval. 16. *R. obovata*.
 Leaflets elliptic or narrowly oval. 17. *R. carolina*.
 Leaflets glandular-dentate and rachis usually glandular. 18. *R. serrulata*.
 Leaflets narrowly elliptic or lance-oblong, usually 9-11, at least on the new shoots. 19. *R. nitida*.
 Hypanthium decidedly pyriform, or ellipsoid, long-tapering at the base. 20. *R. Bicknellii*.

10. ROSA PALUSTRIS Marsh.

This has usually been known as *Rosa carolina* L. It is the *R. carolina* of the second edition of Linnaeus's *Species Plantarum*, but not that of the first. It is evident that Linnaeus, when he prepared the manuscript for the first edition, did not have any specimens, but based his *R. carolina* wholly on the plate and description in Dillenius's *Hortus Elthalmensis*, *pl.* 245, *f.* 316. This plate does not represent *R. carolina* as usually understood, but the species commonly known as *R. humilis* Marsh. In discussing *R. carolina*, Crépin states: "The latter description, i.e., that of *Hortus Elthalmensis*, and the figure can apply either to *R. humilis* Marsh. or to *R. lucida* Ehrh., but not to *R. carolina* as we know it today. Besides the branch which I have seen in Sherard's herbarium with Dillenius's name on, belongs to *R. humilis* Marsh (= *R. parviflora* Ehrh.). The result is that the first name for *R. humilis* Marsh. is *R. carolina* L. Sp., ed. 1." Crépin therefore arrived at the same conclusion as I. The oldest

name for the Swamp Rose, or what has usually been known as *R. carolina*, is thus *R. palustris* Marsh., a very appropriate name. The synonymy of this species is much involved; see North American Flora.

West of Lake Michigan, especially in the Green Bay region, *R. palustris* has more pubescent, smaller, and less bluish green leaflets. This form may represent a distinct species or geographical variety.

II. ROSA DASISTEMA Raf.

Some specimens, collected especially in Missouri and named *R. carolina*, differ from *R. palustris* in having a smaller hypanthium decidedly pear-shaped and acute at the base, instead of depressed-globose and rounded below, and also in having fewer leaflets, usually five, rarely seven, instead of seven or nine. These specimens agree closely with the description of *R. dasistema* Raf. The type of the latter was from Indiana, from which state I have seen no specimens. This fact, however, does not disprove the identity of the Missouri specimens with Rafinesque's species. These specimens are:

MISSOURI: Paw Paw Junction, *Bush* 226; Kennett, *Trelease* 177; Campbell, *Bush* 109, 6214; Butte County, *Bush* 3688.

12. ROSA GEMELLA Willd.

Although this has usually been regarded as a synonym of *R. blanda*, the description shows that it can not be that species. The description of the prickles of *R. gemella* (slender and curved) would exclude it from *R. blanda*. There is, however, a plant, though rather rare, which answers Willdenow's description. It is related to *R. carolina*, but differs in the curved prickles, the more corymbose inflorescence, and the entire sepals. It may be confused also with *R. virginiana* and *R. palustris*. From the former it differs in the thin dull leaflets, the slender more curved prickles and the low habit. Its prickles resembles those of *R. palustris* but are much weaker, while its leaflets are broad and rather short and more coarsely serrate. The following specimens belong here:

NOVA SCOTIA: Yarmouth, *Howe & Lang* 122.

MASSACHUSETTS: Ipswich, *Nash, Morong*; Provincetown, *Hollick*.

NEW YORK: South Beach, Staten Island, *Burnham* 746; New Dorp, *Kearney*; Eastport, *Schrenk*.

VIRGINIA: Marion, *N. L. & E. G. Britton & A. M. Vail*.

13. *ROSA NANELLA* Rydberg

Mr. E. P. Bicknell collected a small rose on the sand-dunes of Chappaquiddick Island, east of Martha's Vineyard, Massachusetts, which was described in the North American Flora under this name. It is related to *R. carolina*, but smaller, has smaller leaflets, smaller fruit, and short, usually curved prickles. It also resembles *R. nitida*, especially in the small shining leaflets, but the latter are fewer in number and more obovate, and its prickles are different. The following specimens belong here:

MASSACHUSETTS: Chappaquiddick Island, *Bicknell*.

NEW YORK: Peconic River, Long Island, *N. Taylor*; Smith's Point, Fire Island, *E. L. Morris*; Oak Island, *N. Taylor*.

14. *ROSA VIRGINIANA* Mill.

This has usually been regarded as a synonym of *R. blanda*. This may have been due partly to the fact that Miller described *R. virginiana* as unarmed, partly perhaps to the fact that at least one of the specimens on which *R. blanda* was originally based belonged to the species here treated. Another character assigned to *R. virginiana* by Miller, viz., "the shining leaves," does not very well apply to *R. blanda* as usually understood. The name *R. virginiana* Mill. was substituted for *R. lucida* Ehrh. in the New Gray's Manual by Robinson and Fernald. I therefore wrote to Professor Fernald, asking him kindly to let me know the reasons for the change made. In answer I received the following letter, which I take the liberty of publishing:

Rosa virginiana Miller, Gard. Dict. ed. 8, no. 10 (1769), is represented by a fine sheet in the herbarium of the British Museum, marked "*Rosa virginiana* Mill. Dict. No. 10!" James Britten and J. G. Baker who called my attention to it say there is absolutely no question about its authenticity. There are three fruiting branches and they are perfectly good *R. lucida* Ehrh. Crépín recognized it and has written on the sheet "*R. lucida* Ehrh. Cr." and J. G. Baker (Jour. Linn. Soc. XXXVII. 74) in his Revised Classification of Roses so treats it. I took a photograph—an excellent one nearly life-size—and it shows the characteristic broad-base and curved infra-stipular prickles at two points.

It is therefore plain that *R. virginiana* Mill. is the oldest name for the rose usually known as *R. lucida* Ehrh. To me it seems that *R. carolinensis* Marsh. applies better to this species than does either of the two species described by Linnaeus under the name of *R. carolina*. *R. rapa* Bosc is apparently a double form of this species.

Mr. Best reduced this species to a variety of *R. humilis*. He had collected a great number of rose-specimens in New Jersey. Some of these were presented to Columbia University. These show many gradations between *R. lucida* Ehrh. and *R. humilis* Marsh. (i.e., the original *R. carolina* L.), and also between these and another form, *R. humilis villosa* Best (*R. Lyoni* Pursh). Best concluded that all should be regarded as a single variable species. He has been followed by N. L. Britton and C. K. Schneider, the latter using the name *R. virginiana lucida* Best. I doubt if Best ever used said combination, at least in print. In my opinion several of Mr. Best's specimens are of hybrid origin, and this circumstance would give a satisfactory explanation for the intergradation, which is rarely met with elsewhere.

Rosa blanda Willmottiana Baker, according to the figure, has nothing to do with *R. blanda*, but belongs without doubt to *R. virginiana*.

15. ROSA LYONI Pursh

A species which has been confused with both *R. virginiana* Mill. (*R. lucida* Ehrh.) and *R. carolina* L. (*R. humilis* Marsh.), but which differs from both in having the leaves densely pubescent beneath. In general habit and in the sepals and the prickles, it resembles most the latter, but the leaflets are much broader and the flowers are as large as in *R. virginiana*. The flowers are also more inclined to be corymbose than in *R. carolina*. *R. Lyoni* is a more western species, receiving its best development in Missouri, but extends as far east as central New York and New Jersey, where it mixes with the two species mentioned, and hybridizes with them. See remarks under *R. virginiana*. *R. Lyoni* is apparently the same as *R. pusilla* Raf., *R. lucida* α T. & G., and *R. humilis villosa* Best.

16. *ROSA OBOVATA* Raf.

The first one to give a good description of this species was Lindley, who described it in his monograph under the name *R. laxa*. Unfortunately this name was preoccupied by *R. laxa* Retz., for which reason Sprengel substituted *R. Lindleyi*, also a homonym or rather pseudo-homonym, as there was already a *R. Lindleyana* Tratt. Mr. Baker, in Miss Willmott's Genus *Rosa*, described it as *R. humilis grandiflora*. There is, however, a *R. grandiflora* Salisb., so the name is not available. The only name left to consider is *R. obovata* Raf. Rafinesque's description, in this case as usually, is far from satisfactory, but "the single large flowers, obovate leaflets, and straight prickles," would indicate this species. In many respects it is intermediate between *R. virginiana* and *R. carolina*, but has comparatively broader leaflets than either. The leaflets are rather dull, sometimes somewhat glaucous. The following specimens are to be referred to it:

MAINE: Hudson, *Briggs*; Bangor, *O. W. Knight*.

MASSACHUSETTS: Nantucket Island, *Bicknell*.

RHODE ISLAND: Newport, *Mearns 553*.

NEW YORK: Ithaca, *Coville, Pearce*; Long Beach, Long Island, *Bicknell*; Lake Ronkonkoma, *Bicknell*.

NEW JERSEY: Bay Head, Ocean County, *Mackenzie*.

PENNSYLVANIA: Raymond's Kill, Pike County, *Nash*.

MISSOURI: Chadwick, *Trelease 185*.

17. *ROSA CAROLINA* L.

This name was taken up in the North American Flora for the plant described by Linnaeus in the first edition of his *Species Plantarum*. It is the same as *R. humilis* Marsh. and *R. parviflora* Ehrh. See the discussion under *R. palustris*. Wangenheim described it under the name *R. pennsylvanica*, and Michaux changed the form of the name to *R. caroliniana*. It appears also to be *R. pratensis* Raf. The rest of the synonyms are easily explained.

18. *ROSA SERRULATA* Raf.

This is closely related to the preceding species and has usually been confused with it. It differs in the double-toothed leaflets,

each tooth usually ending in a distinct gland. In the South it is more common than *R. carolina*, but extends as far north as central New York and Wisconsin. It is the same as *R. parviflora glandulosa* Crépín, and also as his var. *setigera*, at least in part.

19. *ROSA NITIDA* Willd.

This is well understood. It is distributed from Newfoundland to Massachusetts, near the coast, and has likewise been collected in Connecticut.

20. *ROSA BICKNELLII* Rydberg

This species is probably most closely related to *R. virginiana* but differs in the smaller and less numerous flowers, the obovoid fruit acute at the base, the smaller, thinner, and not shining leaflets. It may be the same as *R. acuminata* Raf., but the leaflets are by no means "acuminate," and the distribution, as far as known, is quite different. The following specimens belong to it:

NOVA SCOTIA: Purchell's Cove, Halifax Harbor, *Howe & Lang*.

MASSACHUSETTS: Coscati and Wauwinet, Nantucket Island, and Chappaquiddick Island, *Bicknell*.

NEW YORK: Long Beach, East Rockaway and Lawrence, Long Island, *Bicknell*; Lone Hill and Peconic River, *N. Taylor*.

VI. CINNAMOMIAE

Infrastipular prickles not present; branches unarmed or bristly, not prickly.

Inflorescence corymbose, terminating the stem; plant more or less suffruticose; stem very bristly, mostly dying back to the ground in the winter; leaflets usually 9-11.

Leaves glabrous or nearly so.

21. *R. arkansana*.

Leaves densely pubescent, especially beneath.

22. *R. suffulta*.

Inflorescence of solitary or few corymbose flowers ending lateral branches; plant shrubby; leaflets usually 5 or 7 (or 9 on the new shoots only).

Stem densely bristly even in age.

Leaflets comparatively thin, neither rugose nor strongly reticulate; branches and prickles glabrous.

Hypanthium decidedly pear-shaped or ellipsoid, acute at the base, with a distinct neck at the top.

23. *R. acicularis*.

- Hypanthium subglobose, without a neck.
 Leaflets glandular-granuliferous and pubescent beneath; fruit 1.5 cm. thick. 24. *R. Bourgeauiana*.
 Leaflets villous beneath; fruit about 1 cm. thick. 25. *R. acicularioides*.
 Leaflets thick, strongly reticulate, and rugose; branches and even the prickles pubescent. 26. *R. rugosa*.
 Stem unarmed or when young covered with more or less deciduous bristles.
 Sepals erect or connivent in fruit.
 Leaflets decidedly but finely pubescent beneath. 27. *R. blanda*.
 Leaflets glabrous on both sides, shining. 28. *R. subblanda*.
 Sepals reflexed in fruit.
 Leaflets decidedly puberulent or short-pilose; sepals 9–15 mm. long; petals 1.7–2 cm. long. 29. *R. Williamsii*.
 Leaflets glabrous or nearly so; sepals 2–5 cm. long; petals 2.5–3.5 cm. long. 30. *R. johannensis*.
 Infrastipular prickles present, more or less curved.
 Flowers mostly solitary; petals 2.5 cm. long or more; leaflets densely pubescent beneath. 31. *R. spinosissima*.
 Flowers corymbose; petals about 2 cm. long; leaflets finely puberulent beneath. 32. *R. palustriformis*.

21. ROSA ARKANSANA Porter

Collected in Wisconsin.

22. ROSA SUFFULTA Greene

Collected near the Bureau of Standards, Washington, D. C. This and the preceding species belong to the prairies and plains west of the Mississippi River and will be treated in a subsequent article.

23. ROSA ACICULARIS Lindley

This species was originally described from Siberian material, but Alaskan specimens match exactly Lindley's figure and so do specimens from Siberia. Specimens from the southern and eastern limits of its range differ a little, in having smaller and less firm leaflets, less glaucous beneath, and smaller flowers. They differ from *R. Engelmannii* and *R. Bourgeauiana* in the leaflets, which are narrower and decidedly pubescent beneath; from the former in the simple teeth and the lack of glandular granules on the lower leaf-surfaces, and usually in the larger fruit; and from the latter in the elongate fruit with a distinct neck. All specimens from

Wisconsin, Michigan, and northern New York, labelled *R. Engelmannii* and many labelled *R. Sayi* belong here. *R. Sayi* Schwein. is in reality a synonym of this. See discussion under the next species. Sometimes *R. acicularis* is nearly destitute of bristles, and may then be mistaken for *R. blanda*, but the ellipsoid fruit always distinguishes it. Such specimens are:

MICHIGAN: Presque Isle Park, Marquette, *Wheeler* (determined by Crépin as *R. blanda*, with the following remark, "fruiting receptacle resembling that of *R. acicularis* var. *Engelmannii*").

24. ROSA BOURGEOUIANA Crépin

This was first collected by Richardson on the Saskatchewan or somewhere between that river and the Mackenzie, and was published as *R. majalis* Borrer in Hooker's Flora. There is an older *R. majalis* Herm., however. In 1875, Crépin proposed the name *R. Bourgeauiana*, without a description, but the next year he reduced it to a variety of *R. acicularis*. Watson, in his Monograph of the North American Roses, adopted the name *R. Sayi* Schwein, and it has usually been known under that name. It is not *R. Sayi* Schwein., however, for Schweinitz described his species as having ellipsoid fruit and the leaves pubescent beneath. These characters point without any doubt to *R. acicularis*, which is also found in the region visited by Schweinitz. *R. Sayi* must therefore be regarded as a synonym of *R. acicularis*.

25. ROSA ACICULARIOIDES Schuette

Schuette's description* is very meager, but the writer has seen some of his specimens. The description in the North American Flora was drawn from those in the Gray Herbarium. Later some were also found at the New York Botanical Garden, among duplicates from Schuette's herbarium, received in exchange from the Field Columbian Museum, Chicago. The plant perhaps most resembles *R. Bourgeauinana* in habit, leaf-form, and size and form of the fruit, but the leaflets are densely pubescent beneath as in *R. acicularis*; yes, even more so, and with longer hairs. The specimens are from Lily Bay, Sturgeon Bay, and Little Sturgeon, Door County, Wisconsin.

* Proc. Am. Ass. Adv. Sci. 46: 278-9. 1898.

26. *ROSA RUGOSA* Thunberg

Common in cultivation and occasionally found as an escape; it is well established in a few places in Connecticut and on Nantucket Island.

27. *ROSA BLANDA* Ait.

The species was based on three different elements, judging from the following statements in the Hortus Kewensis:

Nat. of Newfoundland and Hudson's-bay.

Cult. 1773, by Mr. James Gordon.

Fernald* has properly discussed the status of the two native specimens covered by the description. Having previously discussed the matter with him, the author agreed that the name must be applied to the Hudson Bay specimen, rather than the Newfoundland one, for the plant is named the "Hudson Bay Rose,"* and the hypanthium is described as glabrous. Prior to this discussion with Professor Fernald, I had held the opinion that the Newfoundland plant should be regarded as the type, partly because Solander, who prepared part of the manuscript for the first edition of Aiton's Hortus Kewensis, had in manuscript called this *R. blanda* and the Hudson Bay shrub *R. blanda* β ; and partly because *R. blanda* is described as glabrous. I therefore adopted the name *R. Solanderi* Tratt. for the shrub usually called *R. blanda*, the species with pubescent leaves. Having conceded to Fernald's argument, I have left *R. blanda* as interpreted by Lindley. If the name *R. blanda* is applied to the Newfoundland plant, it would become a synonym of *R. virginiana* and be eliminated altogether.

In the Green Bay region of Wisconsin and Upper Michigan, *Rosa blanda* is much more pubescent than elsewhere, so far as I know, and the pubescence of the lower surface of the leaves is sometimes as long as in *R. acicularis* and *R. acicularioides*. In some of these specimens the leaflets are more elongate-elliptic and the hypanthium more elongate, or pear-shaped, or with a distinct neck, and in such cases the specimens are probably of hybrid origin, i.e., represent *R. acicularis* \times *blanda*. In the same region *R. palustris* is also more pubescent. Could, perhaps, some *R. acicularis* blood have been infused in both many generations back?

* Rhodora 20: 90-96. 1918.

Lindley recognized a so-called glabrous *R. blanda* and described it under the name *R. fraxinifolia* Borkh., but Borkhausen's description does not agree with Lindley's conception of *R. fraxinifolia*. Neither does C. C. Gmelin's description,* which has been cited as a synonym of *R. blanda*. Lindley included in this *R. fraxinifolia* not only *R. blanda* α of Solander's manuscript, i.e., the Newfoundland rose, but also the *R. blanda* described and figured by N. J. Jacquin† The former is, as shown by Fernald, nothing but *R. virginiana* Mill. and belongs to a different group, the CAROLINAE, instead of the CINNAMOMIAE. Jacquin's *R. blanda* is probably the same as the cultivated specimens mentioned by Aiton. Jacquin described *R. blanda* as being perfectly glabrous both as to the leaves and the hypanthium. His illustration does not in any way indicate that his plant was *R. virginiana*. In nearly every respect, it suggests *R. blanda*, except that both the illustration and the text inform us that it was glabrous. Is there such a plant, and what name should it bear? As stated before, Lindley recognized such a plant, though he erroneously included in it *R. blanda* α of Solander, from Newfoundland, which had a glandular bristly hypanthium. Neither can the name which he adopted be used for the reason given above. Crépin, who had seen the original specimens of *R. blanda* α , and had written on the sheet "verus *R. lucida*," i.e., *R. virginiana*, recognized a glabrous *R. blanda*, and described it as *R. blanda glabra*. As this plant evidently has no valid name, I gave it the name *R. subblanda* in the North American Flora.

28. ROSA SUBBLANDA Rydberg

This species is much rarer than *R. blanda* and wholly confined to the Northeast. The following specimens may be cited:

QUEBEC: Mrs. Persival; Cape Enrage, Bic, Williams, Collins & Fernald.

VERMONT: Gardener's Island, Lake Champlain, Faxon; Royalton, Eggleston.

NEW YORK: Bluff Point, Lake Champlain, Vail.

* Fl. Bad. 2: 413. 1806.

† Fragmenta pl. 107. 1809.

29. *ROSA WILLIAMSII* Fernald30. *ROSA JOHANNENSIS* Fernald

This and the preceding species have been discussed by their author,* and nothing more needs to be added.

31. *ROSA SPINOSISSIMA* L.

This is the earliest name for the Cinnamon Rose. Linnaeus probably included in the original description two different species, or at least cited also synonyms belonging to *R. pimpinellifolia*. Many authors have applied the name *R. spinosissima* to the latter species. It is evident that Linnaeus principally had in mind a native rose of Sweden, which could be none but the Cinnamon Rose.

Crépín† has shown that the original *Rosa cinnamomea* L., of the first edition of the Species Plantarum, which was based wholly on a plant from Switzerland and described by Haller and Bauhin, is the same as *R. pendulina* L. In the first edition Linnaeus gives as a synonym under *R. cinnamomea*, "*Rosa sylvestris, odoratissimo rubro flore. Bauh. pin. 483.*" Under the same name, in the second edition, he cited, "*Rosa, odore cinnamomi, simplex. Bauh. pin. 483,*" which shows that *R. cinnamomea* L. of the first edition was not the same as that of the second. The first was evidently what in the tenth edition of his Systema and in the second edition of his Species Plantarum is called *R. alpina*, which is the same as *R. pendulina* L.

The *R. cinnamomea* of the second edition is the plant usually known under that name. As stated before, the oldest name of this is evidently *R. spinosissima* L. Not that that name should be entirely equivalent to *R. cinnamomea* of the second edition, for Linnaeus evidently had two species confused. He gave two references under it, one to his Flora Suecica and the other to Bauhin's Pinax. The latter may well be *R. spinosissima* as usually understood, i.e., a form of *R. pimpinellifolia*; but the former must be something else. *R. pimpinellifolia* is not found, even as an escape, in the part of Sweden where Linnaeus reported his *R. spinosissima*. In his Flora Suecica, he gave the vernacular name

* Rhodora 20: 94, 95. 1918.

† Bull. Herb. Boiss. 5: 135-138. 1897.

of the plant in the province of Upland, north of Stockholm, and stated that it grew along margins of fields. Wahlenberg, both in his Flora Upsaliensis and in his Flora Suecica, identified it with *R. majalis* Retz. and *R. cinnamomea* Sm., which is the same as *R. cinnamomea* of the second edition of the Species Plantarum; he even adopted the name *R. spinosissima*.

In the tenth edition of his Systema, Linnaeus placed *R. spinosissima* in the second division, i.e., with the species having ovate fruit, while he placed *R. pimpinellifolia* in the first division with suglobose fruit. In the second edition of the Species Plantarum, he added nothing to what he had in the first edition except one sentence from the Systema. In his second Mantissa, he seems to have changed his views altogether. Under *R. pimpinellifolia* he made the following remark: "Cum *R. spinosissima* eadem facit Hallerus." Evidently on account of Haller's interpretation, he adopted the name *R. spinosissima* for *R. pimpinellifolia*. He omitted all his previous synonyms, cited "*Clus. hist. 1. p. 116*," and made a new description, incorporating in it not only a globose fruit, but white petals, yellow at the base, characters all belonging to *R. pimpinellifolia*.

Rosa spinosissima (*R. cinnamomea* of the second edition of the Species Plantarum) is in cultivation, and has been found occasionally escaped in the northeastern part of this continent, and also in Wisconsin.

32. ROSA PALUSTRIFORMIS Rydberg

This species was discovered by Dr. Schuette of Green Bay, Wisconsin, who distributed it under an untenable manuscript name. In habit, pubescence and prickles, it strongly resembles *R. palustris*, but the hypanthium and sepals are in form and size like those of *R. blanda*. The sepals are erect and persistent in fruit, while the hypanthium is glabrous, not glandular-hispid. At first I thought that it might be a hybrid between the two species, but it has one feature not found in either—the sepals are wholly without glands on the back, only with a few gland-teeth on the margins. In both *R. palustris* and *R. blanda*, the sepals are glandular on the back. The description in the North American Flora was drawn from the specimens in the Gray Herbarium. Those

received later, which are in the herbarium of the New York Botanical Garden, do not resemble *R. palustris* so much, but the distinctive characters are there. Besides the Green Bay specimens, there is also one from Neenah, Wisconsin.

VII. PIMPINELLIFOLIAE

One species.

33. *R. pimpinellifolia*.

33. ROSA PIMPINELLIFOLIA L.

As stated before, Linnaeus included this species under *R. spinosissima* in the first edition of the *Species plantarum*, but it is not the type of it. See the remarks under *R. spinosissima*. Many recent authors have readopted the name *R. pimpinellifolia* for the present species. I am glad that the latter name, which has been in use for this species during a hundred and fifty years, is to be taken up again.

R. pimpinellifolia is extensively cultivated and has escaped in many places. It has been mistaken for a native more than once. Pursh described it as *R. lutescens*, and lately E. G. Baker has given it another name, *R. illinoensis*. The latter was based on specimens collected, according to Baker, by Green, Lansing and Dixon at La Salle, Illinois. There is a sheet in the herbarium of the New York Botanical Garden, collected by Greenman [not Green], Lansing and Dixon. Baker distinguished it from *R. spinosissima* (i.e., from *R. pimpinellifolia*) by the smaller number of leaflets, only seven and by the upper prickles being paired under the leaves. In our specimens, some leaves have nine leaflets, while some of the upper leaves have only three or five. We have also some specimens from England and Scandinavia, which do not have more than seven leaflets. The arrangement of paired infrastipular prickles, I think, was only incidental, for our specimens, duplicates of the type, do not show this characteristic. *R. illinoensis* is nothing but the escape of one of the numerous cultivated forms of *P. pimpinellifolia*. The following American species belong to this species:

VERMONT: Johnson, *Grout*.

ONTARIO: Amherstbough, *Macoun* 34752.

ILLINOIS: La Salle County, *Greenman, Lansing & Dixon* 133.

HYBRIDS

It is well known that hybrids among roses are very common in cultivation, and many wild hybrids have been recorded in Europe. No attempt has been made in this country until recently to distinguish hybrids among our native species. The first and only record in print that I know of, was made in 1900 and by a European, Crépin, who published *R. carolina* \times *nitida* in *Rhodora*. This hybrid should now be known as *R. nitida* \times *palustris*.

Outside of this record, I did not know of anyone besides myself and Mr. E. P. Bicknell, who had undertaken to distinguish hybrids among our native roses, and neither of us had put our observations in print. Bicknell, who did so much in clearing up the *Rubus* hybrids, did some work on *Rosa* at the same time, though his notes have remained in manuscript.

While spending some time last fall at the Gray Herbarium, I found there a collection made by Dr. Schuette of Green Bay, Wisconsin, which collection I worked over in the light of a small paper published by him in 1889.* After my return to New York, I found that the New York Botanical Garden had received a set of Dr. Schuette's duplicates in exchange with the Field Columbian Museum in Chicago. The numerous notes accompanying these duplicates, as well as those at the Gray Herbarium, show that Schuette had done considerably more intelligent work than his published paper indicated. In his article, he described one new species, *R. acicularioides*, and several varieties of *R. blanda* and *R. carolina* (i.e., *R. palustris*). His descriptions are meager, mostly one or two lines long, and apparently of little value, unless studied in connection with his specimens. His notes, however, show that most of his varieties he regarded as hybrids between those two species and other roses found in the region. The notes if published would make a long paper by themselves. It would not be advisable to do so now, as nobody could now present the matter with Schuette's final views. It is evident that even at the time when he published his paper, he was inclined to regard these forms as hybrids. It is unfortunate that he did not dare or did not think it advisable to put his convictions in print and

* Proc. Am. Ass. Adv. Sci. 46: 278-279. 1898.

publish them as hybrids instead of varieties. His published paper does not give justice to his knowledge of, and insight into, the relationship of the roses of Green Bay and vicinity.

It is hardly worth while to redescribe our rose hybrids in this paper. Anyone who wishes to avail himself of descriptions can find them in the North American Flora. I shall therefore only indicate which hybrids have been recorded and cite some specimens which I regard as belonging to each.

ROSA ACICULARIS \times BLANDA

WISCONSIN: Sturgeon Bay, Fort Howard, Elkhart, Little Sturgeon, and Lily Bay, *Schuette*.

MICHIGAN: Menominee, *Schuette*.

ROSA ACICULARIS \times CAROLINA

WISCONSIN: Little Sturgeon, *Schuette*.

ROSA ACICULARIODES \times CAROLINA

WISCONSIN: Lily Bay, Door County, *Schuette*.

ROSA BICKNELLII \times NANELLA

MASSACHUSETTS: Chappaquiddick Island, *Bicknell*.

ROSA BICKNELLII \times VIRGINIANA

MASSACHUSETTS: Squam, Nantucket Island, *Bicknell*.

NEW JERSEY: Farmingdale, *N. Taylor*.

ROSA BLANDA \times CAROLINA

WISCONSIN: Peak's Point, Green Bay, Marinette, Dutch Creek, Peshtigo, Preble, and Big Swamico, *Schuette*.

ROSA BLANDA \times PALUSTRIS

WISCONSIN: Fort Howard, Marinette, Green Bay, Big Swamico, *Schuette*.

ROSA BLANDA \times VIRGINIANA

ONTARIO: Point Abino, *Small*; Mt. Denis, *Biltmore Herbarium*.

MICHIGAN: Ann Arbor (collector unknown).

ROSA CAROLINA \times PALUSTRIS

NEW YORK: Jamaica, *P. Wilson*; Sylvan Beach, Oneida County, *House*.

PENNSYLVANIA: Island Park, near Easton, and on the Delaware,
Porter.

NEW JERSEY: Spotswood, *N. Taylor*.

WISCONSIN: Big Swamico and Preble, *Schuetten*.

ROSA CAROLINA \times VIRGINIANA

NEW JERSEY: Farmingdale, *N. Taylor*.

INDIANA: Boss Lake, *Deam*.

ROSA DASISTEMA \times VIRGINIANA

MISSOURI: Butler County, *Eggert*.

ROSA JOHANNENSIS \times PALUSTRIS

MAINE: Portage Lake, *Robinson & Fernald*.

ROSA LYONI \times SERRULATA

VIRGINIA: Marion and Rye Valley, *Small*.

WEST VIRGINIA: Little Falls, *Millsbaugh*; White Sulphur
Springs, *Biltmore Herbarium*.

NORTH CAROLINA: Matthews, *Biltmore Herbarium*.

GEORGIA: Floyd County, *Chapman*; Coosa River, *Biltmore
Herbarium*.

ROSA LYONI \times VIRGINIANA

NEW JERSEY: Kingswood and Rosemont, *Best*.

ROSA NITIDA \times PALUSTRIS

MAINE: Foxcroft, *Fernald*.

ROSA NITIDA \times VIRGINIANA

NEWFOUNDLAND: St. George, *Howe & Lang*.

MASSACHUSETTS: Branch Island.

ROSA PALUSTRIS \times SERRULATA

WISCONSIN: Fort Howard, *Schuetten*.

ROSA PALUSTRIS \times VIRGINIANA

MASSACHUSETTS: Nantucket Island, *Bicknell*.

NEW JERSEY: Palisades: *Southwick*.

ROSA SERRULATA × VIRGINIANA

ALABAMA: Monte Sano and Auburn, *C. F. Baker*.

The following table indicates the hitherto recorded hybrids among our northeastern native roses:

| | <i>Rosa palustris</i> | <i>Rosa dasistema</i> | <i>Rosa nanella</i> | <i>Rosa virginiana</i> | <i>Rosa Lyoni</i> | <i>Rosa carolina</i> | <i>Rosa serrulata</i> | <i>Rosa Bicknellii</i> | <i>Rosa nitida</i> | <i>Rosa acicularis</i> | <i>Rosa acicularioides</i> | <i>Rosa blanda</i> | <i>Rosa johannensis</i> |
|-----------------------------------|-----------------------|-----------------------|---------------------|------------------------|-------------------|----------------------|-----------------------|------------------------|--------------------|------------------------|----------------------------|--------------------|-------------------------|
| <i>Rosa palustris</i> | | | | × | | × | × | | × | | | × | × |
| " <i>dasistema</i> | | | | × | | | | | | | | | |
| " <i>nanella</i> | | | | | | | | × | | | | | |
| " <i>virginiana</i> | × | × | | | × | × | × | × | × | | | × | |
| " <i>Lyoni</i> | | | | × | | | | | | | | | |
| " <i>carolina</i> | × | | | × | | | × | | | × | × | × | |
| " <i>serrulata</i> | × | | | × | × | | | | | | | | |
| " <i>Bicknellii</i> | | | × | × | | | | | | | | | |
| " <i>nitida</i> | × | | | × | | | | | | | | | |
| " <i>acicularis</i> | | | | | | × | | | | | | × | |
| " <i>acicularioides</i> | | | | | | × | | | | | | | |
| " <i>blanda</i> | × | | | × | | × | | | | × | | | |
| " <i>johannensis</i> | × | | | | | | | | | | | | |

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